Please amend the application as follows:

In the Claims

Please cancel Claims 3, 6-8, 15, 20-22, 34 and 35. Please amend Claims 1, 2, 4, 5, 9-14, 16-19, 23-33 and 36-39 and 40 as follows:

1. (Amended) A [DNA construct] retroviral vector comprising [at least one therapeutic] a heterologous gene placed under transcriptional control of [the WAP or] an MMTV regulatory sequence[s for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma].

2. (Amended) [A DNA construct] The retroviral vector according to claim 1 wherein the [regulatory sequence comprises the proximal 445 bp of the WAP promoter including the transcription initiation site] heterologous gene is a therapeutic gene.

4. (Amended) [A DNA construct] The retroviral vector according to claim 1 wherein the regulatory sequence is the U3 region of MMTV.

5. (Amended) [A DNA construct] The retroviral vector according to claim 1 wherein the regulatory sequence contain the 0.6 Kb PstI MMTV promoter fragment.

9. (Amended) [A recombinant] The retroviral vector according to claim [8] 1 wherein the retroviral vector comprises a 5'LTR region of the structure U3-R-U5; at least one coding sequence coding for [a therapeutic] the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the [WAP or] MMTV regulatory sequence[s] followed by the R and U5 region, said [therapeutic] heterologous gene being under transcriptional control of the [WAP or] MMTV regulatory sequence[s].

10. (Amended) [A construct] The retroviral vector according to claim [1] 2 wherein the therapeutic gene is selected from the group consisting of: anti-tumor genes and cytokine genes [for the treatment of human mammary carcinoma].

11. (Amended) [A construct] The retroviral vector according to claim 10, wherein said therapeutic gene is selected from the group consisting of: [genes which code for proteins such as] Herpes Simplex Virus thymidine kinase gene, cytosine deaminase gene, guanine phosphoribosyl transferase (gpt) gene, cytochrome P 450 gene, cell cycle regulatory genes [which code for proteins such as SDI], tumor suppressor genes [which code for proteins such as p53], antiproliferation genes [which codes for proteins such as melittin, cecropin] or cytokines [such as IL-2] genes.

12. (Amended) A recombinant retroviral particle produced by culturing a packaging cell line harbouring [a] the retroviral vector [construct] according to claim [8] 1 and one or more constructs coding for [the] proteins required for [the] a genome of said retroviral vector to be packaged[, for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma].

13. (Amended) ~~A~~ retroviral provirus carrying a construct comprising [at least one therapeutic] a heterologous gene placed under transcriptional control of [the WAP or] an MMTV regulatory sequence[s integrated in the human genome].

14. (Amended) [A] The retroviral provirus according to claim 13 comprising a 5'LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the [WAP or] MMTV regulatory sequences followed by the R and U5 region; at least one coding sequence coding for [a therapeutic] the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the [WAP or] MMTV regulatory sequence[s] followed by the R and U5 region, said [therapeutic] heterologous gene being under transcriptional control of the [WAP or] MMTV regulatory sequence[s].

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16. (Amended) A packaging cell line harbouring a retroviral vector construct according to claim [6] 1 and one or more constructs coding for [the] proteins required for the genome of said retroviral vector to be packaged.

17. (Amended) [A] An isolated human cell [containing] comprising a retroviral provirus according to claim 13.

A4 cont sub B9

18. (Amended) [Encapsulated cells comprising a core containing cells according to claim 15 and] A capsule encapsulating the packaging cell line according to claim 20, said capsule comprising a porous capsule wall surrounding said [core] packaging cell line, said porous capsule wall being permeable to the [therapeutic polypeptide or] the viral particles produced by said cells [for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma].

19. (Amended) [Encapsulated cells] The capsule according to claim 18 wherein said porous capsule wall consists of a polyelectrolyte complex formed from counter charged polyelectrolytes.

SUB C3 A5

23. (Amended) A pharmaceutical composition [for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma] comprising a DNA construct [according to claim 1] comprising a therapeutic gene placed under transcriptional control of an MMTV regulatory sequence, and a pharmaceutically acceptable carrier or diluent.

24. (Amended) A pharmaceutical composition [for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma] comprising a recombinant retroviral particle according to claim 12 and a pharmaceutically acceptable carrier or diluent.

25. (Amended) A pharmaceutical composition [for the treatment of disorders or diseases of human mammary cells, including human mammary carcinoma] comprising a cell line according to claim [15] 16 and a pharmaceutically acceptable carrier or diluent.

26. (Amended) [The use of the WAP or MMTV regulatory sequences] A method for the expression of [linked therapeutic genes] a heterologous gene in a human [mammary cells, including human mammary carcinoma cells] cell comprising introducing a retroviral vector comprising said gene under transcriptional control of an MMTV regulatory sequence into the human cell.

27. (Amended) The [use] according to claim 26 wherein the [regulatory sequence comprises the proximal 445 bp of the WAP promoter including the transcription initiation site] heterologous gene is a therapeutic gene.

28. (Amended) The [use] method according to claim 26 wherein the [regulatory sequence contains the 320 bp XhoI/XbaI fragment of the WAP promoter region] human cell is a mammary cell.

29. (Amended) The [use] method according to claim 26 wherein the regulatory sequence is the U3 region of MMTV.

30. (Amended) The [use] method according to claim 26 wherein the regulatory sequence contains the 0.6 Kb PstI MMTV promoter fragment.

31. (Amended) The [use] method according to claim [26] 36 wherein the therapeutic gene is selected from anti-tumor genes and cytokine genes.

32. (Amended) The [use] method according to claim 31, wherein said therapeutic gene is selected from the group [consisting of genes which code for proteins such as] Herpes Simplex Virus thymidine kinase gene, cytosine deaminase gene, guanine phosphoribosyl transferase (gpt) gene, cytochrome P 450 gene, cell cycle regulatory genes [which code for proteins such as SDI], tumor supressor genes [which code for proteins such as p53}, antiproliferation genes [which codes for proteins such as melittin, cecropin] or cytokine[s such as IL-2] genes.

a5 cont

33. (Amended) The [use] method according to claim 26 wherein the [therapeutic gene under transcriptional control of the WAP or MMTV regulatory sequences form part of a recombinant vector selected from viral and plasmid vectors] human mammary cell is a carcinoma cell.

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a6

36. (Amended) The [use] method according to claim [35] 26 wherein the retroviral vector comprises a 5'LTR region of the structure U3-R-U5; at least one coding sequence coding for [a therapeutic] the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region, wherein said completely or partially deleted U3 region has been replaced by a polylinker containing the [WAP or] MMTV regulatory sequences followed by the R and U5 region, said [therapeutic] heterologous gene being under transcriptional control of the [WAP or] MMTV regulatory sequences.

Sub B12

37. (Amended) A method for the treatment of human mammary carcinoma comprising administering to a human in need thereof a DNA construct [according to claim 1] comprising a therapeutic gene placed under transcriptional control of an MMTV regulatory sequence, wherein the therapeutic gene is expressed and the human mammary carcinoma is treated.

38. (Amended) A method for the treatment of human mammary carcinoma comprising administering to a human in need thereof a viral particle according to claim 12, wherein the viral particle infects human mammary carcinoma cells in the human and results in treatment of the human mammary carcinoma .

Sub B13

39. (Amended) A method for the treatment of human mammary carcinoma comprising administering to a human in need thereof [cells according to claim 15] a cell line containing a DNA construct comprising a therapeutic gene placed under transcriptional control of an MMTV regulatory sequence, wherein the therapeutic gene is expressed and the human mammary carcinoma is treated.

40. (Amended) A method for the treatment of human mammary carcinoma comprising implanting into a human in need thereof [encapsulated cells according to claim 19] either in or nearby the site of the tumor a capsule encapsulating a cell line containing a construct comprising a therapeutic gene placed under transcriptional control of an MMTV regulatory sequence, said capsule comprising a porous capsule wall surrounding said cell line, said porous capsule wall being permeable to the heterologous polypeptide or the viral particles produced by said cells.

Please add the following claims:

41. A method for expression of a heterologous gene in a human mammary cell wherein expression of said gene is placed under transcriptional control of a WAP regulatory sequence.

42. The method according to claim 41 wherein said heterologous gene is a therapeutic gene.

43. The method according to claim 41 wherein the human mammary cell is a carcinoma cell.

44. The method according to claim 41 wherein the regulatory sequence comprises the proximal 445 bp of the WAP promoter including the transcription initiation site.

45. The method according to claim 41 wherein the regulatory sequence contains the 320 bp XhoI/Xba1 fragment of the WAP promoter region.

46. The method according to claim 41 wherein a DNA construct comprising the heterologous gene placed under transcriptional control of the WAP regulatory sequence is introduced into the human mammary cell.

47. The method according to claim 46 wherein the DNA construct is selected from viral and plasmid vectors.

48. The method according to claim 47 wherein said viral vector is selected from RNA and DNA viral vectors and said plasmid vector is selected from eucaryotic expression vectors.

49. The method according to claim 47 wherein said viral vector is a retroviral vector, a recombinant adenovirus vector, a recombinant adeno-associated vector or a recombinant herpes virus vector.

50. The method according to claim 49 wherein the retroviral vector comprises a 5'LTR region of the structure U3-R-U5; at least one coding sequence coding for the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the WAP regulatory sequence followed by the R and U5 region, said heterologous gene being under transcriptional control of the WAP regulatory sequence.

51. The method according to claim 42 wherein the therapeutic gene is selected from the group consisting of: anti-tumor genes and cytokine genes.

52. The method according to claim 51 wherein said therapeutic gene is selected from the group Herpes Simplex Virus thymidine kinase gene, cytosine deaminase gene, guanine phosphoribosyl transferase (gpt) gene, cytochrome P 450 gene, cell cycle regulatory genes, tumor supressor genes, antiproliferation genes or cytokine genes.

53. A retroviral vector comprising a heterologous gene placed under transcriptional control of a WAP regulatory sequence.

54. The retroviral vector according to claim 53 wherein said heterologous gene is a therapeutic gene.

55. The retroviral vector according to claim 53 wherein the regulatory sequence comprises the proximal 445 bp pf the WAP promoter including the transcription initiation site.

56. The retroviral vector according to claim 53 wherein the regulatory sequence contains the 320 bp XhoI/XbaI fragment of the WAP promoter region.

57. The retroviral vector according to claim 53 wherein the retroviral vector comprises a 5'LTR region of the structure U3-R-U5; at least one coding sequence coding for the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the WAP regulatory sequence followed by the R and U5 region, said heterologous gene being under transcriptional control of the WAP regulatory sequence.

58. The retroviral vector according to claim 54 wherein the therapeutic gene is selected from the group consisting of: anti-tumor genes and cytokine genes.

59. The retroviral vector according to claim 58 wherein said therapeutic gene is selected from the group Herpes Simplex Virus thymidine kinase gene, cytosine deaminase gene, guanine phosphoribosyl transferase (gpt) gene, cytochrome P 450 gene, cell cycle regulatory genes, tumor supressor genes, antiproliferation genes or cytokine genes.

60. A recombinant retroviral particle produced by culturing a packaging cell line harboring a retroviral vector construct according to claim 53 and one or more constructs coding for the proteins required for the genome of said retroviral vector to be packaged.

61. A retroviral provirus carrying a construct comprising a heterologous gene placed under transcriptional control of a WAP regulatory sequence.

62. The retroviral provirus according to claim 61 comprising a 5'LTR region of the structure U3-R-U5; at least one coding sequence coding for the heterologous gene; and a 3' LTR region comprising a completely or partially deleted U3 region wherein said deleted region has been replaced by a polylinker containing the WAP regulatory sequence followed by the R and U5 region, said heterologous gene being under transcriptional control of the WAP regulatory sequence.

63. A packaging cell line harboring a retroviral construct according to claim 53 and one or more constructs coding for the proteins required for the genome of said retroviral vector to be packaged.

64. An isolated human cell comprising a retroviral provirus according to claim 61.

65. A capsule encapsulating the packaging cell line according to claim 63, said capsule comprising a porous wall surrounding said packaging cell line, said porous capsule wall being permeable to the heterologous polypeptide or the viral particles produced by said cells.

66. The capsule according to claim 25 wherein said porous capsule wall consists of a polyelectrolyte complex formed from counter charged polyelectrolytes.

67. A pharmaceutical composition comprising a DNA construct comprising a therapeutic gene placed under transcriptional control of an WAP regulatory sequence, and a pharmaceutically acceptable carrier or diluent.

68. A pharmaceutical composition a recombinant retroviral particle according to claim 60 and a pharmaceutically acceptable carrier or diluent.

69. A pharmaceutical composition comprising a cell line according to claim 63 and a pharmaceutically acceptable carrier or diluent.

70. A method for the treatment of human mammary carcinoma comprising administering to a human in need thereof a DNA construct comprising a therapeutic gene placed under transcriptional control of an WAP regulatory sequence, wherein the therapeutic gene is expressed and the human mammary carcinoma is treated.

71. A method for the treatment of human mammary carcinoma comprising administering to a human in need thereof a viral particle according to claim 60, wherein the viral particle infects human mammary carcinoma cells in the human and results in treatment of the human mammary carcinoma.